

# AWS Private 5G has some positives for operators, but few for other vendors

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AWS announced its private network solution, AWS Private 5G, at its global cloud computing conference, re:Invent, on 30 November 2021. The launch was not a surprise because the company has been involved in a number of private LTE/5G projects with partners in North America, and private 5G is highly complementary to its edge computing products. However, AWS is one of the first companies to provide a packaged solution that includes the spectrum, radio, core and compute platform (Outposts), with the aim of easing adoption for enterprises.

Operators will feel threatened by the launch, but there are positives for them to take from the announcement. The news is instead more worrying for competing technology vendors.

## AWS aims to make private 5G as simple as Wi-Fi

AWS intends to reach a broad set of customers, not just the large enterprises that have been early adopters of private LTE/5G networks. AWS's CEO, Adam Selipsky, referenced offices, campuses, factories and warehouses as potential enterprise sites in his keynote at re:Invent. He also emphasised simplicity and scalability, and claimed that the solution can be deployed in days rather than months.

Other key pieces of information reported include the following.

- The solution includes everything that a customer needs to build and operate a private network. AWS will deliver the radios, network hardware (with preinstalled software) and SIMs based on the information provided by the customer (that is, the size and location of the site and the number of devices). The service also includes spectrum (CBRS).
- The pricing is simple. The customer only pays a monthly fee, which is based on network capacity and throughput. There are no per-device fees, nor are there upfront fees, unlike for other services that typically have both a capex and an opex element. The cost of the network equipment is covered in the monthly charge.
- The solution will initially be available in the USA.

Many details are still not known, including the following.

- **Technology partners.** AWS has not announced who its technology partners are. We assume that AWS has sourced radio and core network components externally to complement its compute solution. It is not clear how much of the solution was developed internally. AWS has already worked on projects with JMA Wireless and Druid Software, as well as Federated Wireless, which sells its own private networks offer through AWS Marketplace. A number of network vendors also build on, and sell through, AWS including core network vendors such as Athonet and Celona.

- **Target countries.** AWS has not announced any other target geographies. We expect that it will focus on countries where there are favourable spectrum regimes for private 5G, such as Germany.
- **Ecosystem.** AWS has not yet announced any devices, but it will want to offer hardware that works without the need for additional configuration. The ecosystem of 5G- and CBRS-ready devices is growing, and AWS's involvement should help to accelerate the volume and type of 5G industrial devices coming to market.
- **Pricing.** AWS has not yet published prices.
- **Roaming.** It is not clear whether AWS has made provision for roaming on the public network. This may not matter initially, but could become more important in the future.
- **Channel strategy.** The channel strategy is unclear, but AWS is likely to sell directly to enterprises and through channel partners. It mentions two partners in its press release (Dish Networks and Koch Business Solutions).
- **Demand.** Sectors that require mission-critical applications may be unwilling to use AWS's solution. This may limit the take-up in certain manufacturing and industrial environments (these sectors are the early adopters of private 5G). Other sectors such as retail may also be unwilling to rely on Amazon, which they see as a competitor.
- **The level of radio planning/design required.** The solution may be more difficult to implement in practice than AWS has suggested. Many enterprises will require support with network planning and design. Complex radio environments will require careful planning.

## Other vendors may struggle to match AWS's offer

The announcement will have more significant repercussions for network equipment vendors than for telecoms operators. Most vendors will not be in a position to quickly replicate the packaged service from AWS. Many also do not have the edge computing and platform capabilities that AWS has. Nevertheless, the AWS announcement may spur some vendors to accelerate their plans for packaged, simpler, private 5G offerings.

## The announcement has a number of positives for operators

Operators are likely to feel threatened by the announcement because enterprises will be able to bypass them. Many also expect private networks to be an area of strong revenue growth. However, operators have had only a limited role in the private networks that have been launched so far. Indeed, operators are prime contractors in less than a third of private network contracts worldwide.<sup>1</sup> This figure is even lower in the USA; operators are the primary contractors on fewer than 10% of private networks. The AWS announcement may affect future revenue for operators, but it does not threaten their existing business.

Operators should also consider some of the benefits of the AWS product.

- AWS will need channels to market and operators will be well-placed to help.

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<sup>1</sup> For more information, see Analysys Mason's [Private LTE/5G networks tracker](#).

- AWS will have to work through operators in countries where spectrum is controlled by operators and licensed spectrum is a customer requirement.
- A pre-packaged solution will allow operators to address a wider audience of small and medium-sized enterprise (SME) customers. Many operators are better-placed to sell predefined solutions than ones that require a high degree of customisation.
- AWS's offer could provide a simple way for fixed operators to add private networks to their portfolios.

The differentiators for operators' private networks have never been about the network technology. Instead, they come from selling private networks along with connectivity and other services, such as SD-WAN, Wi-Fi, security, cloud services and professional services. The AWS announcement does not change this, but it may cause operators to look again at their own offerings and consider how they can improve them.